We claim:

1. A power dissipation management system for a vehicle, comprising:

a. a plurality of driveline components comprising a torque converter, at least one forward clutch, at least one reverse clutch and at least one service brake of a vehicle;

b. at least one thermal sensor for sensing a fluid input temperature of each of said driveline components; and

c. a computer for providing at least one braking signal to one or more of said driveline components based at least in part upon a determined quantity of braking available in each of said driveline components based at least in part on a calculated thermal condition of each of said driveline components.

2. The system of claim 1, wherein said computer comprises a driver intention module, an engine control module, a thermal module, a clutch control module, and a braking module all in communication with a driving module.

3. The system of claim 1, wherein said computer selects a braking profile where the braking on any driveline component within said profile does not exceed said determined quantity of braking available in said driveline component.

4. The system of claim 3, wherein said determined quantity of braking available in each of said driveline components is compared with a plurality of braking profiles provided to said computer in a pre-determined order of preference.

5. The system of claim 1, wherein said calculated thermal condition for each of said driveline components is based at least in part on a sensed fluid input temperature for each component and a torque determined for that component.

6. A method of dissipating power in a vehicle, comprising:

a. determining a thermal condition of a plurality of driveline components, said driveline components comprising a torque converter, at least one forward clutch, at least one reverse clutch and at least one service brake of a vehicle;

b. determining a quantity of energy that one or more of said driveline components can absorb based upon said thermal condition of each; and

c. providing a braking signal to one or more of said driveline components based at least in part upon said quantity of energy one or more of said driveline components can absorb to brake said vehicle.

7. The method of claim 6, further comprising providing a driver intention module, an engine control module, a thermal module, a clutch control module and a braking module all in communication with a driving module.

8. The method of claim 7, wherein said braking module is provided with a temperature of said forward clutch, a temperature of said reverse clutch, a temperature of said torque converter and a temperature of said at least one service brake and a first engine speed value and a desired deceleration value.

9. The method of claim 8, wherein said braking module determines an amount of braking energy available in said torque converter, said at least one forward clutch, said at least one reverse clutch and said at least one service brake.

10. The method of claim 9, wherein said braking module compares said amount of braking energy available in said torque converter, said at least one forward clutch, said at least one reverse clutch and said at least one service brake with a plurality of braking profiles.

11. The method of claim 10, wherein if said amount of braking energy available in said torque converter, said at least one forward clutch, said at least one reverse clutch or said at least one service brake is less than the braking energy required by a braking profile, then another braking profile is selected.

12. The method of claim 11, wherein said braking profiles are provided to said braking module in order of highest braking efficiency for said vehicle to lowest braking efficiency.

13. The method of claim 12, wherein a braking profile is selected in which said amount of braking energy available in said torque converter, said at least one forward clutch, said at least one reverse clutch or said at least one service brake is less than or equal to the amount of braking energy required for said torque converter, said forward clutch, said reverse clutch, or said service brake, respectively, in said profile.

14. The method of claim 13, wherein said braking profile that does not require more energy available in said torque converter, said forward clutch, said reverse clutch or said service brake provides one or more of a forward clutch torque, a reverse clutch torque, a service brake torque or a throttle setting.

15. The method of claim 14, wherein a first braking profile provides a second engine speed value less than said first engine speed value.

16. The method of claim 14, wherein a second braking profile applies said reverse clutch fluid pressure to said reverse clutch.

17. The method of claim 14, wherein a third braking profile applies said reverse clutch fluid pressure to said reverse clutch and selectively applies said forward clutch fluid pressure to said forward clutch.

18. The method of claim 14, wherein a fourth braking profile applies said reverse clutch fluid pressure to said reverse clutch and said forward clutch fluid pressure to said forward clutch and said service brake fluid pressure to said service brake.

19. The method of claim 6, wherein said thermal condition for each of said driveline components is based at least in part on a sensed fluid input temperature for each component and a torque determined for that component

20. A method for a power dissipation management system for a vehicle, comprising:

a. calculating a thermal condition of one or more driveline components, wherein said driveline components comprise a torque converter, at least one forward clutch, at least one reverse clutch and at least one service brake of a vehicle;

b. calculating a quantity of energy each of said driveline components can absorb based at least in part upon each of said calculated thermal conditions;

c. comparing each of said quantities of energy said driveline components can absorb with a plurality of braking profiles;

d. selecting a braking profile to engage one or more of said driveline components, wherein said selected braking profile does not require any of said driveline components to accept more energy than said components can absorb.